

SECTION 404(b)(1) DOCUMENT

Mississippi River Levees Construction Project Trotters, MS Parcel 1 Landside Berm

I. PROJECT DESCRIPTION

a. Location. The location for the proposed seepage berm is landside of the Mississippi River levee, extending from levee station 48/4+35 to station 52/13+00, in the vicinity of Trotters, Tunica County, Mississippi. This item of work is approximately five miles long and is located on the left descending bank near river mile 670. Fill material will be obtained from three borrow areas located riverside of the levee. See project map and plan drawings in appendix.

b. General Description. The Memphis District has completed the final design for Trotters, Mississippi, Item 670 L that was included in the Mississippi River Levee (MRL) Enlargement and Seepage Control Final Supplemental Environmental Impact Statement (SEIS), dated July 1998. As presented in the SEIS, the initial plan was to construct a seepage berm landside of the levee at levee stations 48/0+00 to 52/0+00 and to obtain borrow material from cultivated fields riverside of levee stations 48/0+00 to 48/30+00, 49/0+00 to 49/25+00, and 52/20+00 to 52/45+00. During detailed design, the seepage berm was moved slightly to extend from 48/4+35 to 52/13+00; and the borrow areas were moved to mostly wooded areas because the borrow sites identified in the 1998 MRL SEIS remain under water for eight to 10 months out of the year. The new borrow locations remain dry for most of the year and can be reached by existing roads.

Environmental effects of fill material placement for berm construction were addressed in the Section 404(b)(1) evaluation report that was appended to the 1998 MRL SEIS. However, since borrow will be obtained from alternative sites that were not covered under the SEIS, this separate 404(b)(1) evaluation report was prepared to analyze and disclose project effects related specifically to the removal of borrow material.

c. Authority and Purpose. The project is authorized by the Flood Control Act of 1928, as amended.

The berm is needed to control the seepage that occurs during flood conditions on the Mississippi River and to assure that the levee system is safe from a project flood event. Seepage could undermine the levee if unabated. Some sand boils are already present in the project area on the landside of the levee. Borrow material is needed to construct the berm.

d. General Description of Dredged and/or Fill Material.

(1) General Characteristics of Fill Material. Earthen material (sand, clay, and silt alluvium) will be taken from the three proposed borrow areas riverside of the Mississippi River

levee. Earthen material might be moved and re-deposited within the borrow sites during the removal of stumps and debris.

(2) Quantity of Material. Approximately 350,000 to 400,000 cubic yards of material will be excavated from the three borrow areas.

(3) Source of Material. Earthen material will be excavated from the three riverside borrow areas and hauled to the four landside fill areas on existing roads.

e. Description of Proposed Discharge Sites.

(1) Location. The borrow sites are located on the riverside of the Mississippi River mainline levee. The borrow material will be placed in low-lying areas at four locations on the landside of the levee between levee miles 48/4+35 and 52/13+00. See project map, aerial photograph, and plan drawings in appendix.

(2) Size. The three borrow areas total 39.4 acres.

(3) Type of Habitat. The three borrow areas are comprised of 31.4 acres of bottomland hardwood forest and eight acres of agricultural wetland. Hackberry and American elm are the predominant tree species found at the sites. Other typical tree species are green ash, bitter pecan, sweetgum, and cottonwood.

(4) Timing and Duration of Discharge. The work will take place during dry periods and low Mississippi River stages.

f. Description of Disposal Method. Conventional logging and earth moving equipment will be used during construction to clear the trees and excavate the borrow areas. The cleared trees and debris will be burned or buried during construction. However, if it is determined that Borrow Area 1 can hold water, the slopes of this pit will be flattened; and debris islands will be constructed to create more diverse fish and wildlife habitat.

II. FACTUAL DETERMINATION

a. Physical Substrate Determinations.

(1) Substrate Elevation and Slope. The project is located on flat, recent Mississippi River floodplain deposits. The elevation is around 185 feet above mean sea level.

(2) Sediment Type. The major soil association of the project area is the Commerce-Robinsville-Crevasse Association. These soils are nearly level and are poorly to excessively drained. The specific soil type at the project location consists of Alluvial soils that frequently flood during spring. These soils range in texture from sand to clay and in drainage from poor to excessive.

(3) Dredged and Fill Material Movement. Earthen material might be moved and re-deposited within the borrow areas during removal of stumps and debris. Borrow material will be hauled from the three riverside borrow areas to the four landside fill areas on existing roads.

(4) Physical Effects on Benthos. No benthic organisms will be impacted by the project.

(5) Other Effects. N/A

(6) Action Taken to Minimize Impacts. The project will be constructed during periods of low rainfall and low river stages. The smallest practical areas will be cleared and used as borrow sites.

b. Water Circulation, Fluctuation, and Salinity Determination.

(1) Water. No change in water quality of the Mississippi River is expected due to construction of this project.

(a) Salinity. N/A

(b) Water Chemistry. The water chemistry of the project affected area should not change as a result of the excavated material.

(c) Clarity. No expected change.

(d) Color. No expected change.

(e) Odor. No expected change.

(f) Taste. No expected change.

(g) Dissolved Gas levels. No expected change.

(h) Nutrients. No expected change.

(i) Eutrophication. No expected change.

(j) Others as Appropriate. N/A

(2) Current Patterns and Circulation.

(a) Current Patterns and Circulation. No expected change.

(b) Velocity. No expected change.

(c) Stratification. No expected change.

(d) Hydrologic Regime. The project will not affect the hydrologic regime of the Mississippi River. Seepage will be reduced under the levee.

(3) Normal Water Level Fluctuations. Seepage will be reduced under the levee, but this project will not affect normal water level fluctuations.

(4) Salinity Gradients. N/A

(5) Action Taken to Minimize Impacts. Construction will take place during low rainfall and low Mississippi River stages. The smallest practical areas will be cleared and used for borrow sites.

c. Suspended Particulate/Turbidity Determination.

(1) Expected Changes in suspended Particulates and Turbidity Levels in Vicinity of Disposal Sites. Excavation and re-deposition of soil within the borrow areas are not expected to significantly increase the level of suspended particulates or increase turbidity during or after construction.

(2) Effects on Chemical and Physical Properties of the Water Column.

(a) Light Penetration. N/A

(b) Dissolved Oxygen. No change is expected.

(c) Toxic Metals and Organics. No change is expected.

(d) Pathogens. N/A

(e) Aesthetics. The cleared areas around the borrow pits will be planted with Nuttall oak, overcup oak, green ash, sycamore, and persimmon.

(f) Others as Appropriate. N/A

(3) Effects on Biota.

(a) Primary Production. No impact on primary production is expected. The cleared areas around the borrow pits will be planted with Nuttall oak, overcup oak, green ash, sycamore, and persimmon.

(b) Suspension/Filter Feeders. No impact is expected.

(c) Sight Feeders. No impact is expected.

(4) Actions Taken to Minimize Impacts. Construction will be done during low Mississippi River stages. Best management practices will be exercised throughout construction to minimize silt and runoff impacts. Borrow will be extracted from the smallest total area practical, and the cleared areas around the pits will be planted with Nuttall oak, overcup oak, green ash, sycamore, and persimmon. The 31.4 acres of wooded wetland loss from the borrow areas will be mitigated by restoring 70 acres of prior-converted or farmed wetland to bottomland hardwood forest. These 70 acres of mitigation land will be added to the 30 acres already needed to offset impacts identified in the 1998 SEIS for the Mississippi portion of MRL work.

d. Contaminant Determinations. It is not expected that any contaminants will be introduced or translocated due to project construction.

e. Aquatic Ecosystems and Organism Determination.

(1) Effects on Plankton. N/A

(2) Effects on Benthos. N/A

(3) Effects on Nekton. The nekton community exists only temporarily during flooding; therefore, no construction impacts are expected to occur.

(4) Effects on Aquatic Food Web. No impacts are expected.

(5) Effects on Special Aquatic Sites.

(a) Sanctuaries and Aquatic Sites. N/A

(b) Wetlands. The borrow areas are located entirely in wetlands. Approximately 31.4 acres of bottomland hardwoods and 8 acres of agricultural wetlands will be impacted by borrow material extraction. The woodlands are comprised primarily of hackberry, American elm, green ash, pecan, and cottonwood. Seventy acres of prior-converted or farmed wetlands will be restored to bottomland hardwoods to mitigate adverse impacts associated with the borrow areas.

(c) Mud Flats. N/A

(d) Vegetated Shallows. N/A

(e) Riffle and Pool Complexes. None exist in the project area.

(6) Threatened and Endangered Species. Corps of Engineers biologists conducted an endangered species survey of the project area on February 7, 2003. No endangered or threatened species, or critical habitats, were found at the project location. This project is being coordinated with the U.S. Fish and Wildlife Service. Any comments they may have regarding impacts to endangered or threatened wildlife, or their critical habitats, will be considered in evaluating the described work.

(7) Other Wildlife. Terrestrial wildlife will be disturbed during borrow removal. After construction, the cleared areas around the borrow pits will be planted with Nuttall oak, overcup oak, green ash, sycamore, and persimmon. The 70 acres of mitigation land will be protected and managed to benefit wildlife.

(8) Actions taken to Minimize Impacts. The project will be constructed during low-flow periods. Impact areas will be limited to the extent necessary for construction of the project features.

f. Proposed Disposal Site Determinations.

(1) Mixing Zone Determination. N/A

(2) Compliance with Applicable Water Quality Standards. Water quality certification has been requested from the Mississippi Department of Environmental Quality, Office of Pollution Control. The project will adhere to all applicable water quality standards.

(3) Potential Effects on Human Use Characteristics.

(a) Municipal and Private Water Supply. N/A

(b) Recreational and Commercial Fishing. N/A

(c) Water Related Recreation. N/A

(d) Aesthetics. The project site is very rural with few people visiting the site. The cleared areas around the borrow pits will be planted with Nuttall oak, overcup oak, green ash, sycamore, and persimmon following construction. The 70 acres of mitigation land will be protected and managed; over time, it will develop into an aesthetically pleasing forest.

(e) Parks, National Historical Monuments, National Seashore, Wilderness Areas, Research Sites and Similar Preserves. N/A

g. Determination of Cumulative Effects on the Aquatic Ecosystem. The cumulative effects of clearing 31.4 acres of wooded wetland on the thousands of acres in the Mississippi River floodplain are too small to evaluate. The cleared areas around the borrow pits will be planted with Nuttall oak, overcup oak, green ash, sycamore, and persimmon. Mitigation for the 31.4 acres of cleared bottomland hardwoods will consist of reforesting 70 acres of prior-converted or farmed wetlands with selected bottomland hardwood species.

Other than the four fill areas and three borrow areas, no other wetlands will be affected. The habitat value of the mitigation land will increase over time because it will be protected and properly managed.

h. Determination of Secondary Effects on the Aquatic Ecosystem. N/A

III. FINDING OF COMPLIANCE FOR TROTTERS, MS, LANDSIDE BERM - PARCEL 1

- a. No significant adaptations of the Section 404(b)(1) guidelines were made relative to this evaluation.
- b. The seepage berm is needed to control the seepage that occurs during flood conditions on the Mississippi River and to assure that the levee system is safe from a project flood event. Seepage could undermine the levee if unabated. Some sand boils are already present in the project area landside of the levee. Borrow material must be extracted in order to construct the berm.
- c. Water quality certification has been requested from the Mississippi Department of Environmental Quality, Office of Pollution Control.
- d. Corps of Engineers biologists have conducted an endangered species survey of the project area. No endangered or threatened species, or critical habitats, were found at the project location. This project is being coordinated with the U.S. Fish and Wildlife Service. Any comments they may have regarding impacts to endangered or threatened wildlife, or their critical habitats, will be considered in evaluating the described work.
- e. A cultural resources survey of the project area is currently being conducted. The subsequent report will be sent to the State Historic Preservation Officer (SHPO) and to the appropriate Native American groups. If any potentially significant cultural resources are discovered, they will be avoided or tested for significance. Any significant cultural resources that cannot be avoided will be mitigated.
- f. The proposed project will not significantly affect human health and welfare, the municipal water supply, or commercial or sport fishing. No long-term impacts on plankton communities; fishery breeding, spawning, or nursery habitats; or shellfish areas are expected. No special aquatic sites are located in the project area.
- g. No significant adverse impacts to aquatic life or terrestrial wildlife, dependent on aquatic ecosystems, are expected.
- h. The proposed project should not cause significant adverse impacts on ecosystem diversity, productivity, or stability.
- i. No adverse impacts on recreational, aesthetic, or economic values are anticipated. The proposed project will prevent economic and infrastructure damages.

j. In order to minimize potential environmental impacts, construction will be conducted during periods of low stream flow and low rainfall. Additionally, vegetative clearing will be limited to the extent necessary for construction of project features.

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Environmental Analysis Branch
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MISSISSIPPI RIVER LEVEES CONSTRUCTION PROJECT
TROTTERS, MISSISSIPPI
ITEM 670L, LANDSIDE SEEPAGE BERM

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